**Utilisation of Biomass Energy**

1005. SHRIMATI KAMALA S1NHA: Will the PRIME MINISTER be pleased to state:

(a) whether the attention of Government has been drawn to a publication entitled 'Biodiversity for Energy' brought out by the Indian Association for the Advancement of Science and the FAO ;

(b) whether Government intend to utilise biomass energy as a central part of future sustainable energy supply which is environment-friendly and economically and technically feasible; and

(c) if so, the details thereof ?

THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES AND THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI S. KRISHNA KUMAR): (a) Yes, Madam.

(b) and (c) Yes, Madam, the Government have taken up utilisation of variety of biomass materials through techno-economically feasible conversion routes for augmenting supply of energy for variety of applications in the country. The Government have taken steps to formulate National Programmes on Cogeneration of Energy from biomass (bagasse), Industrial Urban and Municipal Wastes, Biomass Briquetting and Biomass Gasification.

**Production of Power from Sugar Mills**

1006. SHRI SURESH PACHOURI: Will the PRIME MINISTER be pleased to state :

(a) whether it is a fact that the Central Government have launched a programme to produce 10 MW power each from about 400 sugar mills ;

(b) whether the Ministry of Non-conventional Energy Sources has prepared any plan in this regard ;

(c) if so, to what extent the Ministry has so far worked out the plans to produce power from Sugar Mills in the country ; and

(d) what are the States where such plans will be initiated ?

THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES AND THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI S. KRISHNA KUMAR) : (a) to (c) Ministry of Non-Conventional Energy Sources had constituted a Task Force to assist in the formulation of a National Programme on Biomass based Cogeneration. The recommendations of the Task Force pertaining to bagasse based cogeneration in sugar mills were discussed in a National Workshop held recently. A National Programme is likely, to be launched after detailed examination of the recommendations.

(d) Significant potential for bagasse based cogenefation is available in all the major sugar producing States such as Uttar Pradesh, Maharashtra, Tamil Nadu etc.

**Wind Mills and Energy Generation**

1007. SHRI BHUPINDER SINGH MANN : Will the PRIME MINISTER be pleased to state :

(a) what is the number of wind mills that 'ase at present in operation in the country ;

(b) what is their aggregate cost and the quantum of energy they generate ; and

(c) what is the cost of energy generated in this way ?

THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES AND THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI S. KRISHNA KUMAR): (a) Over 400 wind electric generators ranging from unit size 55 KW to 300 KW are in operation at present in the country. The total installed capacity is 69 MW.

(b) The overall cost of wind power projects ranges from Rs. 3.50—4.00 crores per MW and they generate from 2—2.5 million units per MW.

(c) The cost of generation from wind is in the range of Rs. 2.25—2.75 per kwh, depending upon the site.

**Alcohol as A Source of Alternative Fuel**

1008. SHRI BHUPINDER SINGH MANN: Will the PRIME MINISTER be pleased to state :

(a) whether it is a fact that alcohol is used as an alternative fuel in some countries of the world;

(b) if so, the details thereof; and

(c) what are the reasons for not using the same as an alternative fuel in India;

THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES AND THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI S. KRISHNA KUMAR): (a) and (b) Yes, Sir, Alcohols viz methanol and ethanol are used as alternative fuels for diesel and petrol vehicles in Brazil, USA, Argentina and Kenya etc. Alcohols are blended with petrol and diesel in different ratios, 10— 30 per cent by volume and used in vehicles. Tn Brazil, pure alcohol vehicles have also been developed and are in vogue as that country uses most of its alcohol productitto for substitution of imported petroleum fuels.

(c) In India, ethanol produced from mollases is used as chemical feed stock leaving hardly any surplus for use as fuel. Production of methanol in fertiliser industry has also been limited, viz-a-viz the total automotive fuel requirements of the country. Notwithstanding inadequate availability of alcohols, research and development work has beein successfully undertaken on use of methanol and ethanol in diesel and petrol vehicles. It has been possible to achieve about 14 per cent diesel replecement in diesel buses and 10 percent blending with petrol for petrol vehicles in demdnstration projects. It is now proposed to expand the use of alcohols in transport vehicles for environmental benefits and partial petroleum replacement as increased availability of alcohols is now feasible with production of methanol from natural gas and sizeable reduction in import duty on ethyl alcohol recently announced.

**Huge Loans used for the Development of Wind Mills**

1009. SHRI SATISH PRADHAN: Will the PRIME MINISTER be pleased io state :

(a) whether it is a fact that the Indian Renewable Energy Development Agency Ltd. has received a loan of 145 million dollars for the development of non-conventional energy sources;

(b) whether Government have made any allocation of this fund for development of windmills ; if so, what is quantum thereof; and

(c) whether the windmills will be deve loped for dual purpose of pumping water as well as development of energy ?

THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES AND THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI S. KRISHNA KUMAR): (a) Yes, Sir. The World Bank has sanctioned assistance of $ 145 million under Renewable Resources Development Project (RRDP) to Indian Renewable Energy Development Agency Ltd. (IREDA). This assistances includes a credit of US $ 115 million from International Development Association (IDA) and a grant of US $ 30 million from Global Environment Trust (GET) Fund and Swiss Development Cooperation to implement the project.

(b) Out of this fund, an allocation of US $ 28 million has been made for the development of wind energy projects.

(c) No, Sir. The assistance is made for development wind farm projects and hence exclusively for electricity generation,